Claims

1. A method of free radical initiated addition polymerisation of at least one ethylenically unsaturated monomer in which the dispersed phase is stabilised by a surfactant including at least one anionic surfactant compound of the formula (I):

$$R^1\text{-}(OA)_n\text{-}X \qquad (I)$$

where

R^1 is a C_{16} to C_{22} hydrocarbyl group including at least two double bonds;

OA is an oxyalkylene group; n is from 2 to 60; and

X is a group including at least one acidic H atom, or a salt thereof.

2. A method as claimed in claim 1 wherein the group R^1 is a C_{16} to C_{22} hydrocarbyl group including two double bonds which are conjugated.

3. A method as claimed in either claim 1 or claim 2 in which the compound of the formula (I) is present in mixture with similar compounds but where the residue corresponding to R^1 contains fewer than two double bonds and in which the proportion of multiple unsaturated R^1 residues is at least 15 mole%.

4. A method as claimed in claim 3 wherein the proportion of multiple unsaturated R^1 residues is at least 40 mole%.

5. A method as claimed in any one of claims 1 to 4 wherein the group X is a phosphorus acid group or a salt thereof.

6. A method as claimed in claim 5 wherein the group X is a phosphate, -O-P-$(O)(OH)_2$, group or a salt thereof.

7. A method as claimed in claim 6 wherein at least 60% of the surfactant has the group X as a phosphate, -O-P-$(O)(O)_2$, group or a salt thereof.

8. A method as claimed in any one of claims 1 to 7 wherein the group OA is an oxyethylene group and n is from 5 to 30.

9. A method as claimed in any one of claims 1 to 7 wherein the ethylenically unsaturated monomer(s) is or includes at least one acrytic monomer.

10. A method as claimed in claim 9 wherein the acrylic monomer(s) represent at least 50°/a by weight of the ethylenically unsaturated monomer(s).

11. A method as claimed in claim 9 wherein the acrylic monomer(s) represent at least 75°/a by weight of the ethylenically unsaturated monomer(s).

12. A method as claimed in any one of claims 1 to 11 wherein the amount of anionic surfactant used is from 0.25 to 5 parts by weight surfactant per 100 parts by weight total monomer.

13. A method as claimed in any one of claims 1 to 12 wherein the temperature of the polymerisation reaction is from 60 to 100°C.